REFLECTION OF LIGHT

Based of Definition, Based on ray Diagram &Application, Based on Numericals

1. Laws of reflection are valid in case of
A) Regular reflection B) Irregular reflection
C) Reflection over curved surface D) Both A and B

2. A point source of light is placed in front of plane mirror. Then
A) all the reflected rays meet at point when produced backward
B) only the reflected rays close to normal meet at a point when produced backward
C) only the reflected rays making small angle with mirror, meet at point when produced backward
D) Light of different colours make the different images.

3. **Assertion (A)** : A ray of light incident along the normal retrace its path after reflection from the plane mirror.
Reason (R) : A ray of light along the normal has angle of incidence 90° and hence it retrace its own path after reflection from mirror
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

4. **Assertion (A)** : 11 English alphabets do not show lateral inversion.
Reason (R) :- If some portion of mirror is covered then intensity of image increases.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

5. **Assertion (A)** : Angle of incidence is equals to Angle of reflection.
Reason (R) : Incident ray, normal and reflected ray must lie in same plane.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

6. **Assertion (A)** : We cannot see our image in wall.
Reason (R) : Wall absorb all the light falling on it.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

7. Assertion (A) : Light consist of electromagnetic wave which is transverse in nature.
Reason (R) : Range of wavelength of visible light is 400nm to 700nm.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

8. The image of a bright object is brought on the screen with a concave mirror. If upper half of mirror is covered, what is the effect on the image?
A) its size is halved B) brightness is reduced
C) image changes position D) image disappears

9. A ray passing through or directed towards center of curvature of spherical mirror is reflected such that it trace back to its path because
A) It does not follow laws of reflection.
B) angle of incidence is zero.
C) center of curvature is midway between object and pole.
D) distance of center of curvature from focus is equals to distance of focus from pole.

10. For a real object, a convex mirror always forms an image which is
A) real and inverted B) virtual and inverted
C) virtual and erect d) real and magnified

11. An image is formed at 40cm from the concave mirror of focal length 20cm.the image formed is
A) real, inverted and same size. B) virtual ,erect and same size
C) real, inverted and magnified D) virtual, erect and magnified

12. The image formed by a concave mirror is real, inverted and magnified. The position of the object should be-
A) Beyond C B) Between C and F C) At C D) Between F and Pole

13. The magnification produced by a concave mirror –
A) is always more than one
B) is always less than one
C) is always equal to one
D) may be less than or greater than one

14. The image formed by a concave mirror is observed to be virtual, erect and larger than the object. then the position of the object should be-
A) between the focus and the centre of curvature
B) at the centre of curvature
C) beyond the centre of curvature
D) between the pole of the mirror and the focus

15. A convex mirror is used to form an image of a real object. Then tick the wrong statement
A) the image lies between the pole and focus
B) the image is diminished in size
C) the image is erect
D) the image is real

16. **Assertion (A)** :- A ray passing through principal focus of concave mirror become parallel to principal axis after reflection.
Reason (R) : A ray appear to pass through focus of convex mirror become parallel to principal axis after reflection
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.

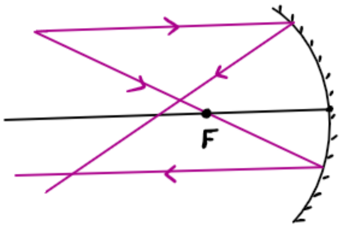
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

17. **Assertion (A)** : The usage of the concave mirror is very helpful during surgery in ear, nose and throat.
Reason (R) : the concave mirror helps the doctor for clear vision and plays a major role in the medical treatments.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

18. Assertion (A) : Convex mirror are commonly used as rear view mirror in vehicle.
Reason (R) : Convex mirrors is curved outward due to which it provide wider view ,which enable the driver to view much larger area.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

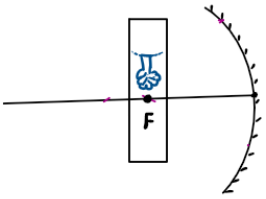
19. **Assertion (A)** : To get the image of object moving towards concave mirror on the screen , we need to move screen away from mirror.
Reason (R) : In concave mirror image always formed on the other side of mirror.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

20. **Assertion (A)** :



Reason (R): Incident rays parallel to Principal axis always pass through focus of the concave mirror.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

21. **Assertion (A)** : Following figure shows Location of image of tree present outside the window while determining focus of concave mirror.
Reason (R) : Image of object present beyond center of curvature Is always between C and F.



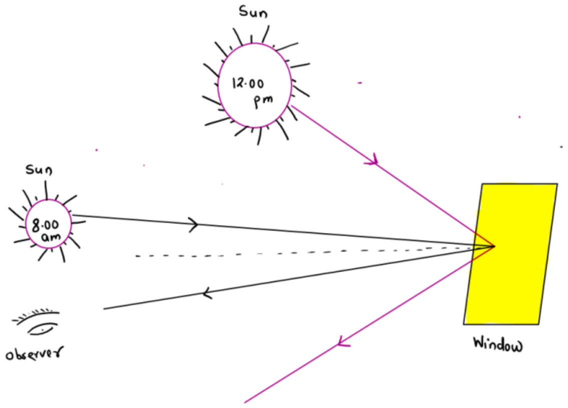
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

22. **Assertion (A)** : Concave mirror instead of plane mirror in solar cooker increase the temperature of Solar cooker.
Reason (R) : Concave mirror combine all the rays coming from sun and focuses the rays inside solar cooker.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

23. **Assertion (A)** : Convex mirror always forms virtual , erect and diminished image.
Reason (R) : All the rays falling on the convex mirror get diverge.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct

24. **Assertion (A)** : Concave mirror is depressed at center and reflect the rays from its outer surface.
Reason (R): Concave mirror is obtained by polishing the curved glass surface from its outer surface
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

25. **Assertion (A)** : Observer is able to see image of sun on window at 8.00am from his location but not able to see the image of sun from the same location at 12.00pm.
Reason (R) : Angle of incidence is always equals to angle of reflection.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.



26. The magnification of an object placed 10 cm from a convex mirror of radius of curvature 20 cm will be-
A) 0.2 B) 0.5 C) 1 D) infinity

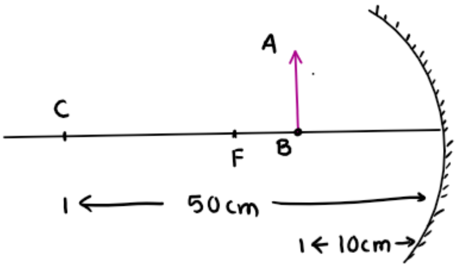
27. Choose the correct relation between u, v and R-
A) $\frac{2.u.v}{u+v}$ B) $\frac{2}{u+v}$ C) $\frac{2.(u+v)}{u.v}$ D) none of these

28. **Assertion (A)** : All distances are measured in direction of light are taken as positive.
Reason (R) : Distance of virtual image from pole is always positive.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.

C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

29. **Assertion (A)** : Image of object present at a distance of 30cm from the concave mirror of focal length 20cm is magnified .
Reason (R) : Distance of image is greater than 40cm for an object present at 30cm from concave mirror of focal length 20cm.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

30. **Assertion (A)** : Distance of image from object for the shown diagram is 26.67 cm.
Reason (R) : Size of image is 5 times of size of object.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.



31. **Assertion (A)** : Image is always diminished for the object present beyond center of curvature.
Reason (R) : magnitude of Distance of image is always less than magnitude of distance of object if object is present beyond center of curvature.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

32. **Assertion (A)** : A spherical mirror is used to form an image on a screen 5.00 m from the mirror and image is 5 times the size of object. For this object should be present at a distance of 1m from the mirror.
Reason (R) : focal length of above spherical mirror is at 2m from pole.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

33. **Assertion (A)** : Focal length of concave mirror is -20cm.
Reason (R) : Distance between pole and center of curvature of concave mirror is 40cm.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

34. **Assertion (A)** : Focal length of converging mirror is 90 cm.
Reason (R) : Light from the distant planet is incident on the converging mirror. The image of planet forms on the screen 45cm from the pole of the mirror.

A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

35. **Assertion (A)** : Magnification of convex mirror is 0.6.
Reason (R) : An object of height 8cm is place at a distance of 10cm in front of convex mirror of focal length 15cm.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

36. **Assertion (A)** : Image is formed at a distance of twice the distance of object from pole.
Reason (R) : Because For above mirror focal length of the mirror is 2u/3.
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.

37. **Assertion (A)** : Magnification of image formed by convex mirror placed at a distance of 5m from pole is 0.0196. Radius of curvature of mirror is 10cm.
Reason (R) : Image is virtual and erect .
A) Both A and R are correct and R is the correct explanation of A.
B) Both A and R are correct and R is not the correct explanation of A.
C) A is correct and R is incorrect.
D) A is incorrect and R is correct.